

Ritchie Avenue

Geneva Avenue

Oswego Avenue

Existing Conditions

Ritchie Avenue

- 25' curb-to-curb pavement width
- On-Street Parking
- Sidewalk along north side
- Speed humps
- 25 mph posted speed limit
- 1,300 vehicles per day west of Geneva (October 2010 traffic count)
 - 93.5% cars and SUVs, 6.5% light trucks
 - Maximum peak hour volume 82 (AM WB), 62 (PM EB)
 - 85th Percentile Speed 24 mph (EB and WB)

Existing Conditions

Geneva Avenue

- 25' curb-to-curb pavement width
- On-Street Parking
- No sidewalks
- 25 mph posted speed limit
- 310 vehicles per day (October 2010 traffic count)
 - 93.5% cars and SUVs, 6.5% light trucks
 - Maximum peak hour volume 23 (AM WB), 23 (PM EB)
 - 85th Percentile Speed 23 mph (EB) and 24 mph (WB)

Existing Conditions

Oswego Avenue

- 25' curb-to-curb pavement width
- On-Street Parking
- No sidewalks
- 25 mph posted speed limit

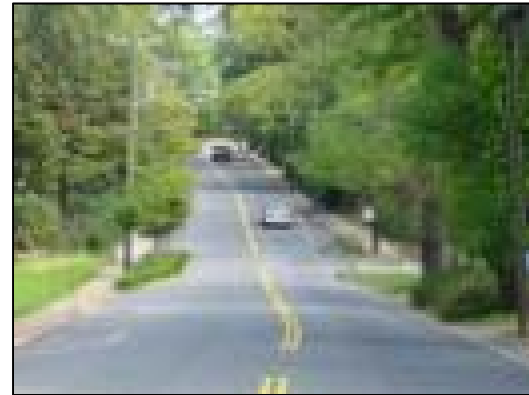
Design Objectives

- Responsive to community concerns
- Proactive speed and volume control in response to County access restrictions
- Improve walkability, bikability
- Improve aesthetics and environment
- Connect key land uses (schools and parks)

Traffic Calming Design

Types of Devices

- Chokers
- Mini-circles
- New Sidewalks
- Bicycle Lanes



What is Driving Green Street Initiatives:

Leadership in Energy and Environmental Design (LEED) for Neighborhood Design

❖ **Sustainable Sites Initiative:**

- *Encourages regionally appropriate landscaping*
- *Rewards smart transportation choices*
- *Controls stormwater runoff*
- *Reduces erosion, light pollution, heat island effect and construction-related pollution*

Goals for Environmental Stewardship:

❖ **Reduce Stormwater Runoff Volume to Enhance Watershed Health.**

- *Utilize a natural (green) system approach incorporating a variety of water quality, energy-efficiency, and other environmental Best Management Practices.*
- *Rain Gardens and Bio-Retention Areas*
- *Permeable Pavement Options*

❖ **Improve Air Quality, Reduce Heat Island Effect**

- *Increase Tree Canopy*
- *Use Light Colored Pavement*

Goals for Safety and Aesthetics:

❖ **Create a Pedestrian Friendly Environment**

- *Encourage Pedestrian and Bicycle Access*
- *Increase Connectivity and Safety*

❖ **Provide an aesthetic advantage to the community through beautification**

- *Provide seating areas*
- *Provide new landscape areas for butterflies and birds*

Green Street Treatments:

Landscaping: Increase Street Tree Canopy and Shade



Maryland Stormwater Manual 5.64
Reduce Heat Island Effect by Providing Shade Trees

Green Street Treatments:

Rain Gardens: Reduce Runoff Volume/Velocity and Enhance Watershed Health



Stormwater Design: Quality Control (SS Credit 6.2)

Impervious cover such as roofs, sidewalks, driveways and streets contribute additional runoff and pollution by denying infiltration of stormwater.

USGBC requirements include capturing and treating rainfall from at least 90% of all rainstorms.

**Maryland Stormwater Manual : Chapter 5 , Section M-7
Treat Runoff from Small Impervious Areas**

Green Street Treatments

Local Materials: Use 20% of Materials Produced within 500 Miles



LEED Credit 5:

A minimum of 20% of building materials that are manufactured regionally within a radius of 500 miles

- ❖ **Permeable Pavers**
- ❖ **Permeable Concrete**
- ❖ **Local Nursery for Landscape**



Pervious Pavement: Allows for Water Infiltration

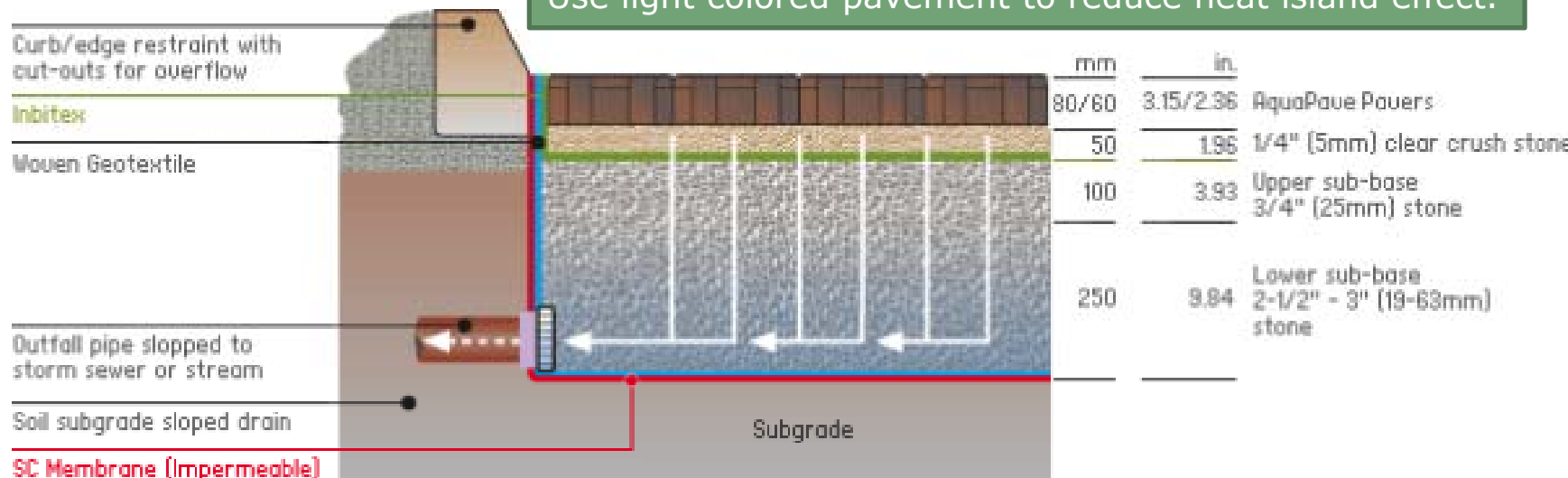


Maryland Stormwater Manual 5.6.4

Stormwater design credits are concerned with the rate, quantity and quality management of stormwater runoff. The rate and quantity of storm water runoff is dependent on the amount of pervious and impervious surface on a building site.

LEED Credit 7.1

Use light colored pavement to reduce heat island effect.



- ❖ Permeable Interlocking Concrete Pavers
- ❖ Permeable Concrete

Connectivity and Safety: Traffic Calming: Choker with Landscape



Example of Choker with Rain Garden



**Existing Condition
Oswego Avenue**

Provides a dual opportunity to reduce traffic speed, provide safer pedestrian access and reduce stormwater flow

Connectivity and Safety: Extend Sidewalks and Provide Crosswalks



Improve Safety Through:

- Crosswalks
- Sidewalks



Crosswalks to be provided on Ritchie, Oswego, and Geneva Aves.

Connectivity and Safety: Traffic Calming Roundabout



Vegetated



Stamped Asphalt



Stamped Asphalt

Community Beautification and Aesthetics

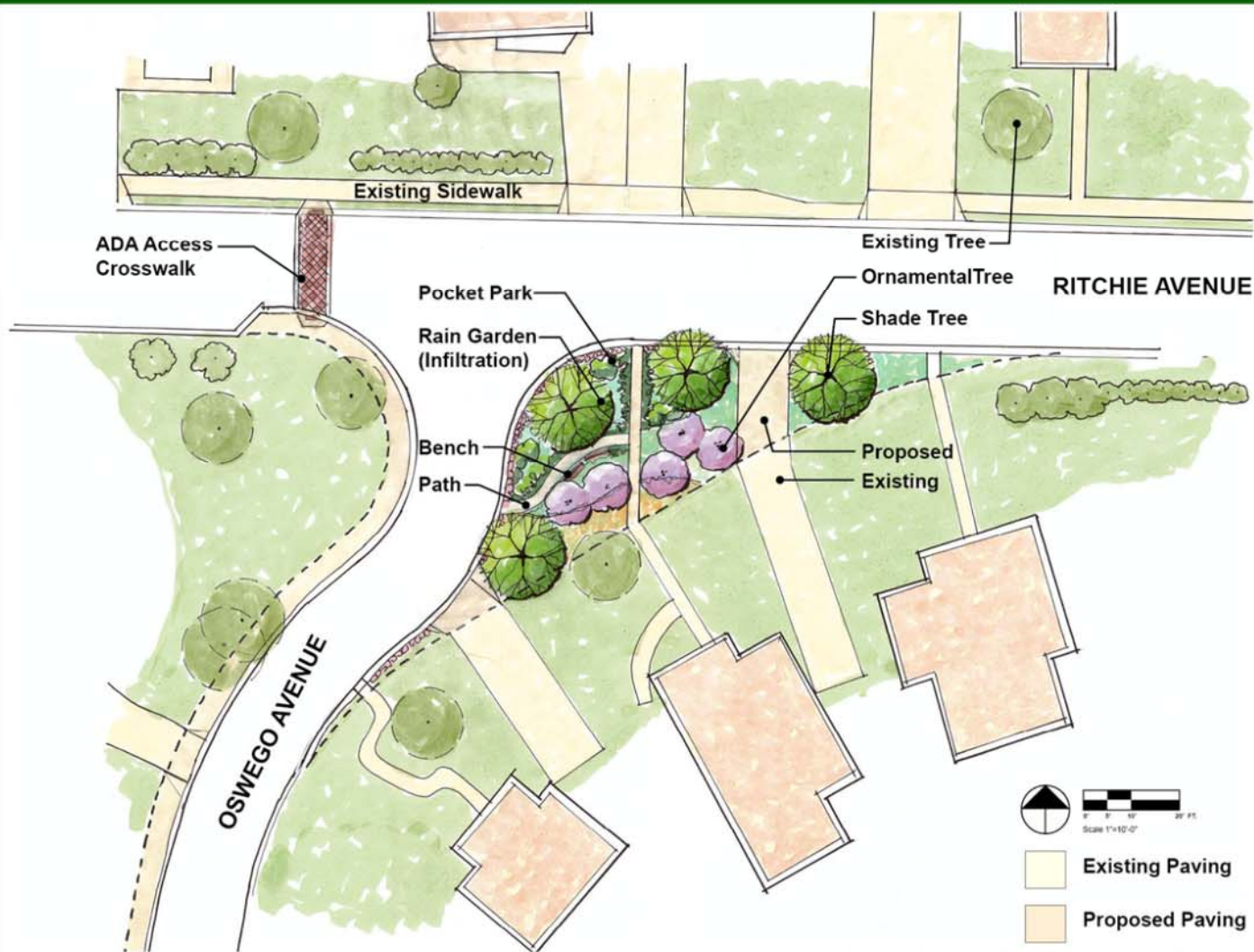


Provide Planted Bio-Retention Areas for Stormwater Capture and Wildlife Habitat

The Greening of Takoma Park, Maryland

Summary of Goals

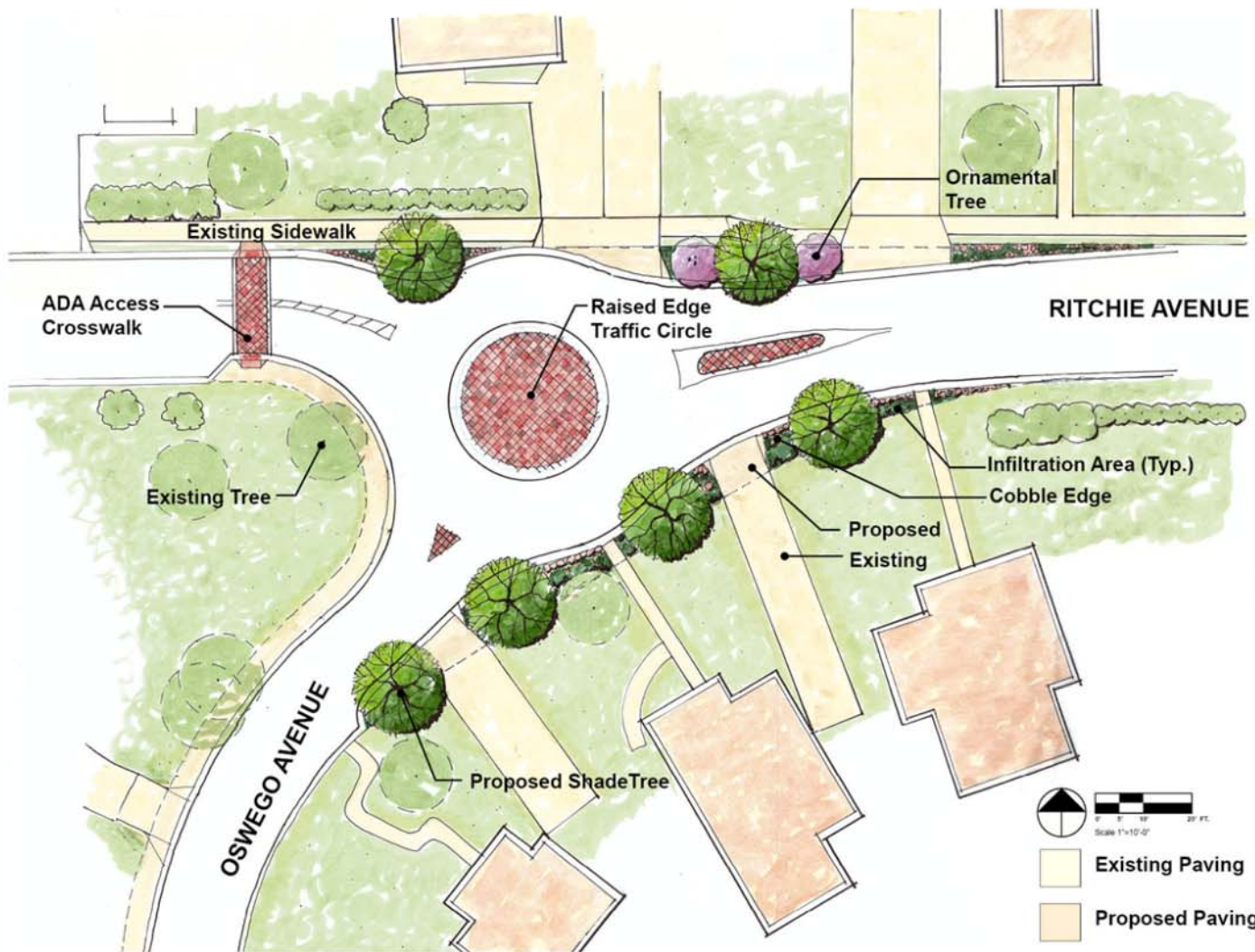
- **Provide a safer pedestrian environment**
 - *Install traffic calming circle and new crosswalks*
- **Capture stormwater**
 - *Create Rain Gardens*
 - *Reduce stormwater runoff into streams*
 - *Use Permeable paving materials*
- **Provide a more aesthetic environment and attract wildlife**
 - *Add shade trees and new landscaped areas*



RAIN GARDEN PLANTS



Ritchie, Oswego and Geneva Avenues Traffic Calming ~ Intersection Narrowing
Takoma Park, Maryland
October 12, 2010



INFILTRATION



ORNAMENTAL TREE



SHADE TREE



COBBLE EDGE

Ritchie, Oswego and Geneva Avenues Traffic Calming

Takoma Park, Maryland

October 12, 2010

~ Traffic Circle

The Greening of Takoma Park, Maryland

Questions ??

Websites for Information:

Takoma Park Stormwater Manual

http://www.mde.state.md.us/Programs/WaterPrograms/SedimentandStormwater/stormwater_design/index.asp

Takoma Park Stormwater Manual

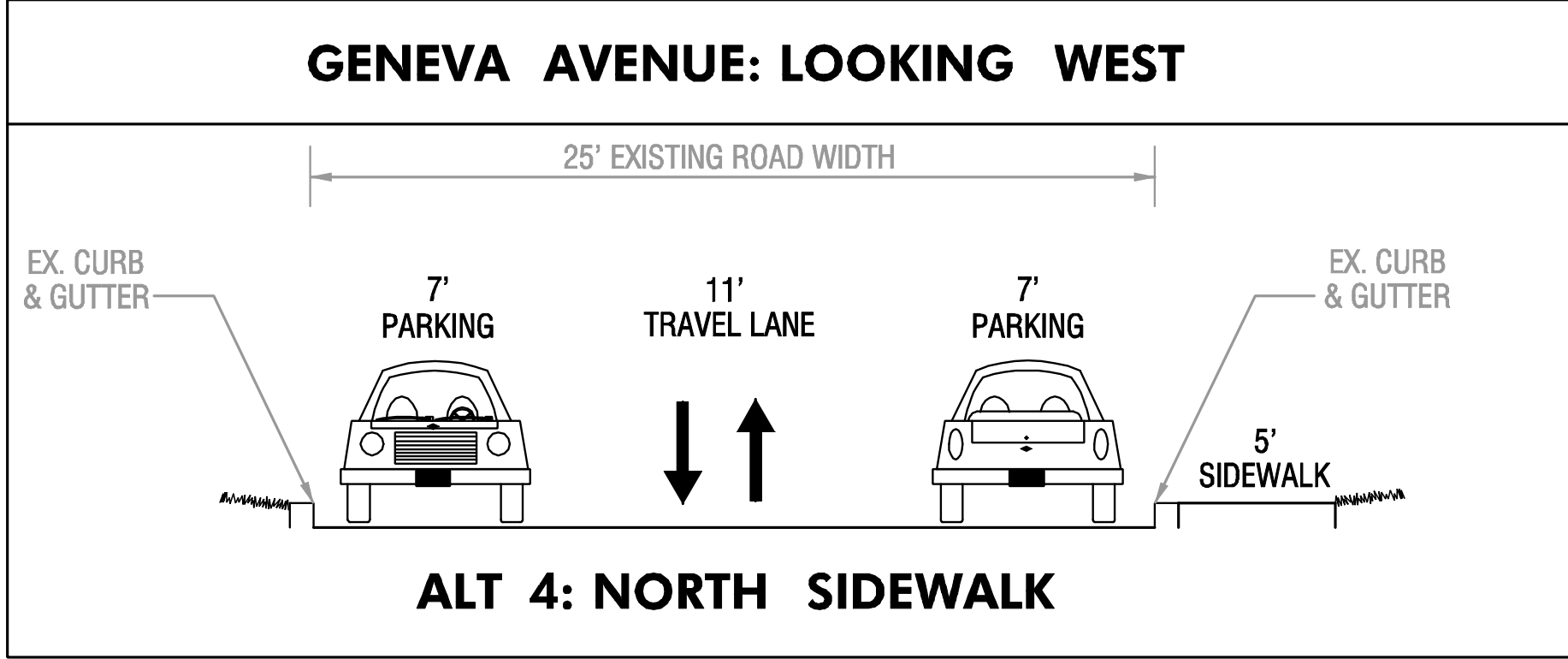
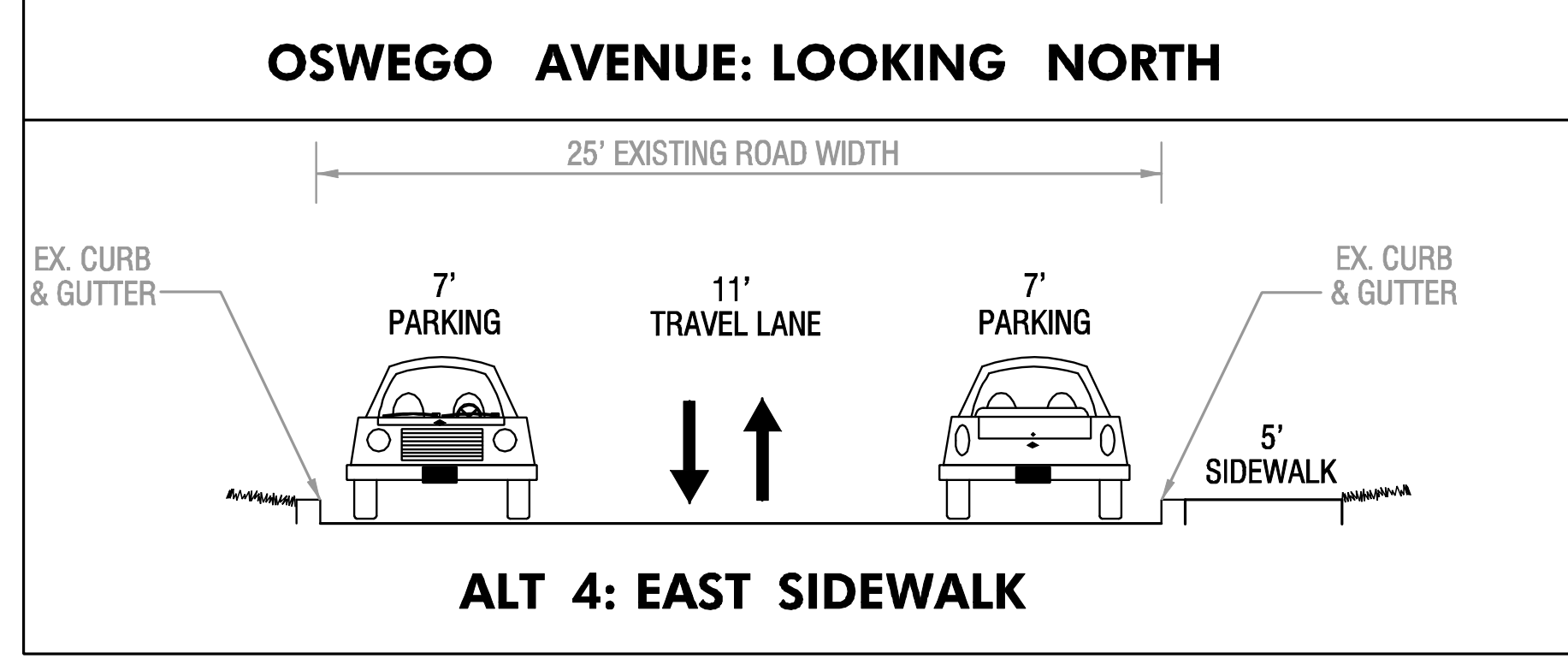
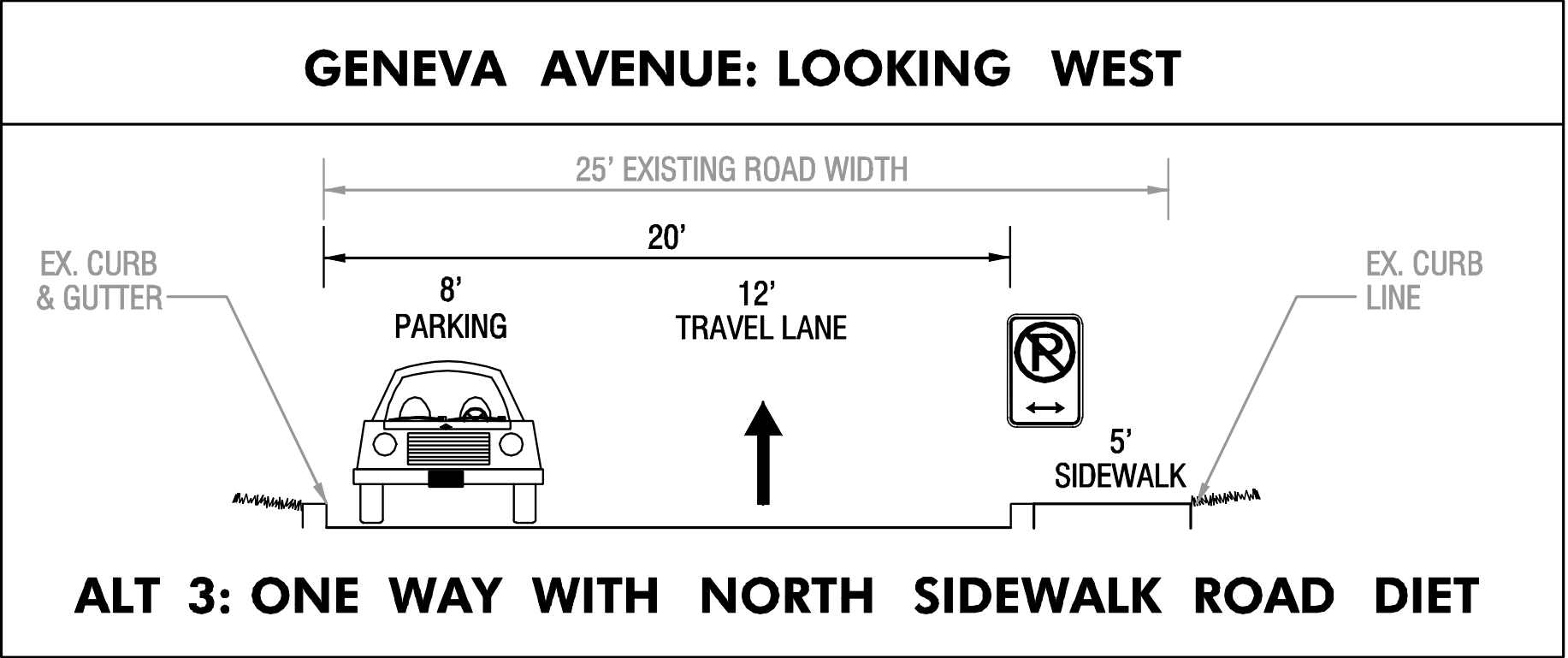
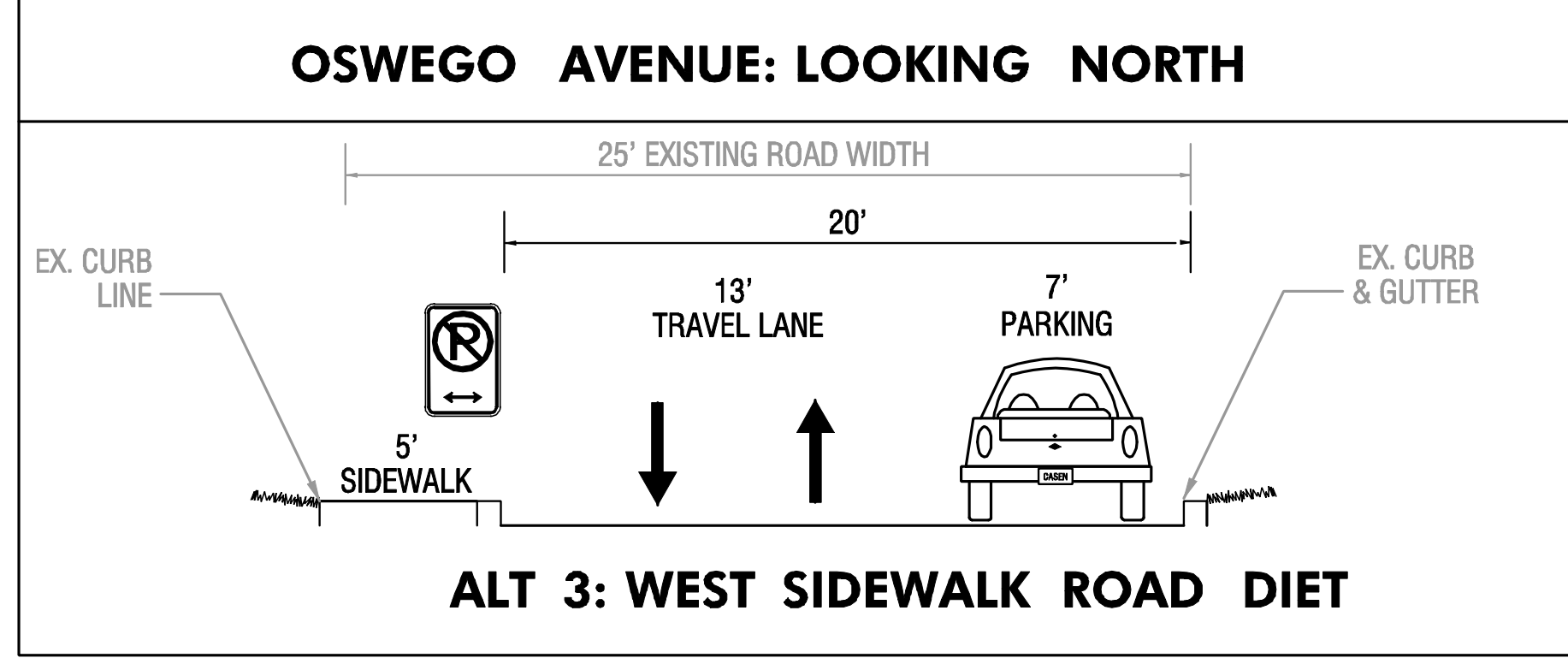
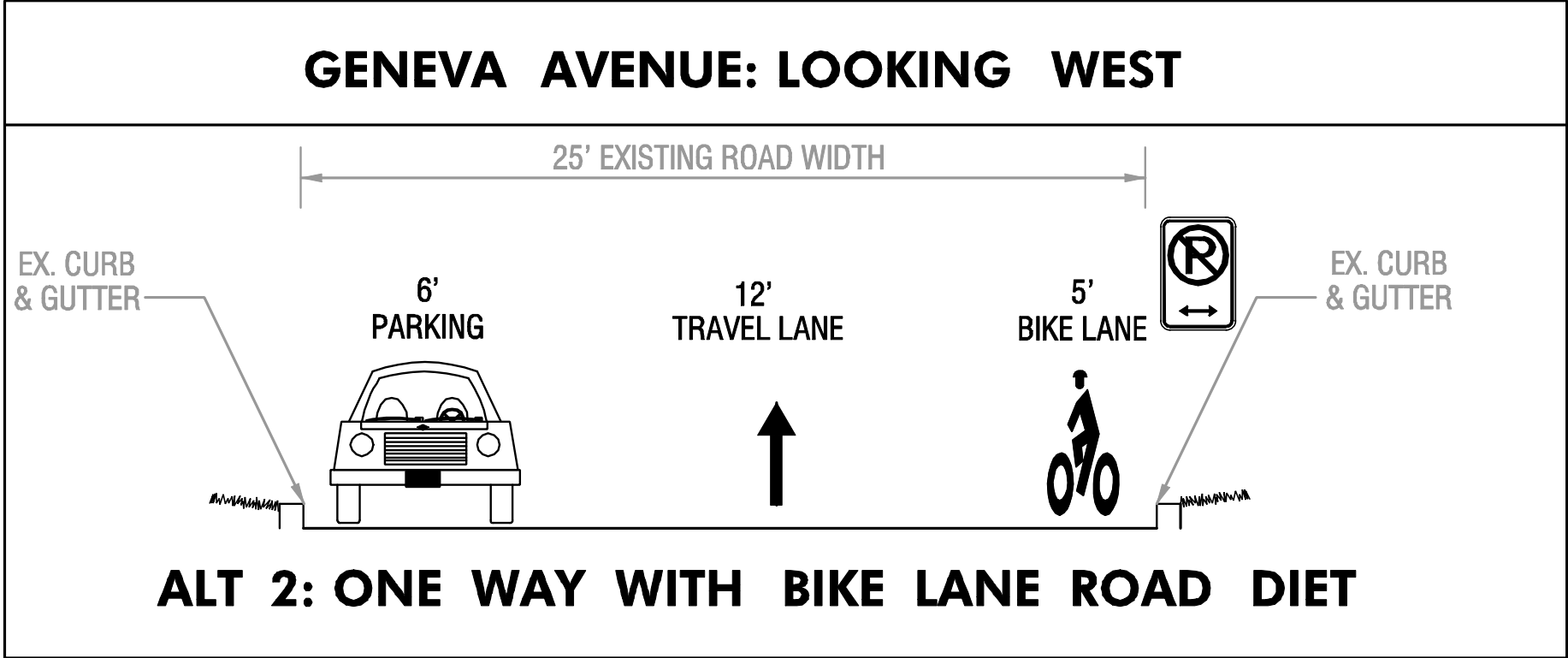
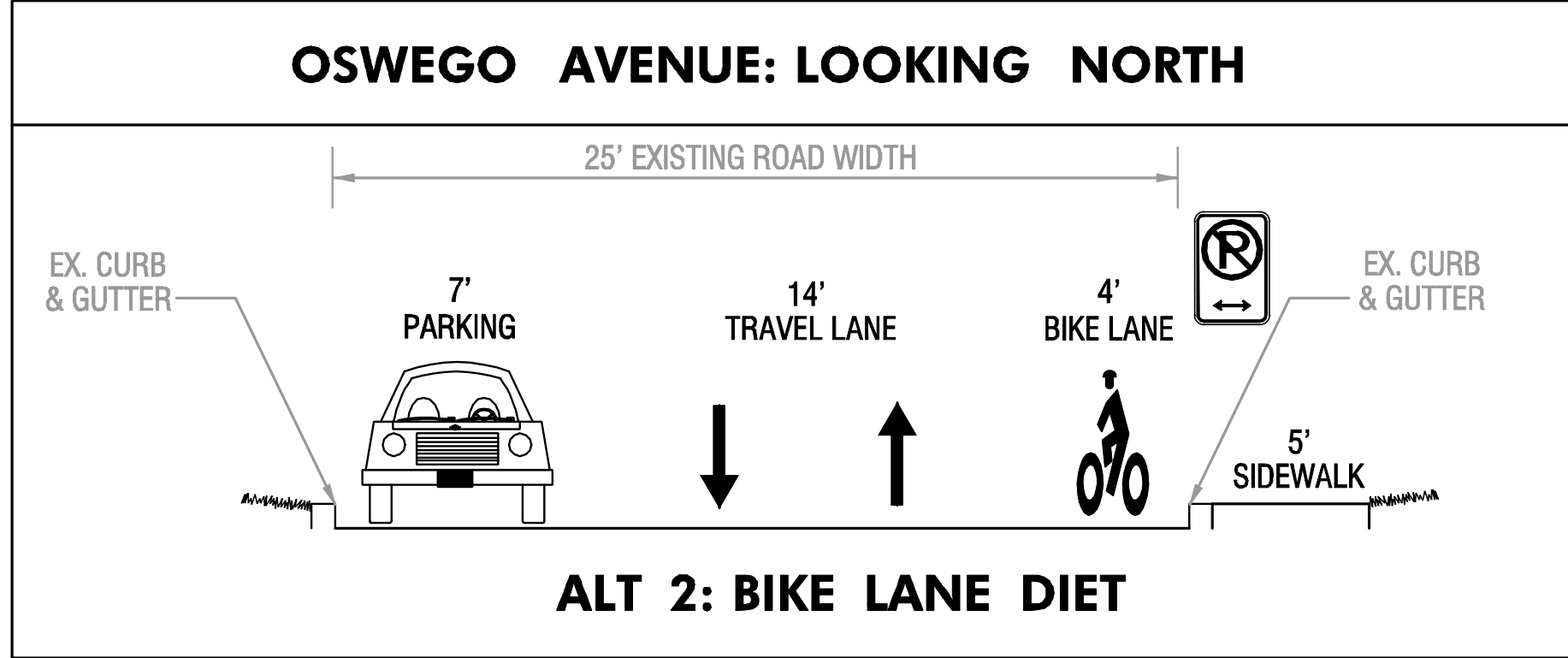
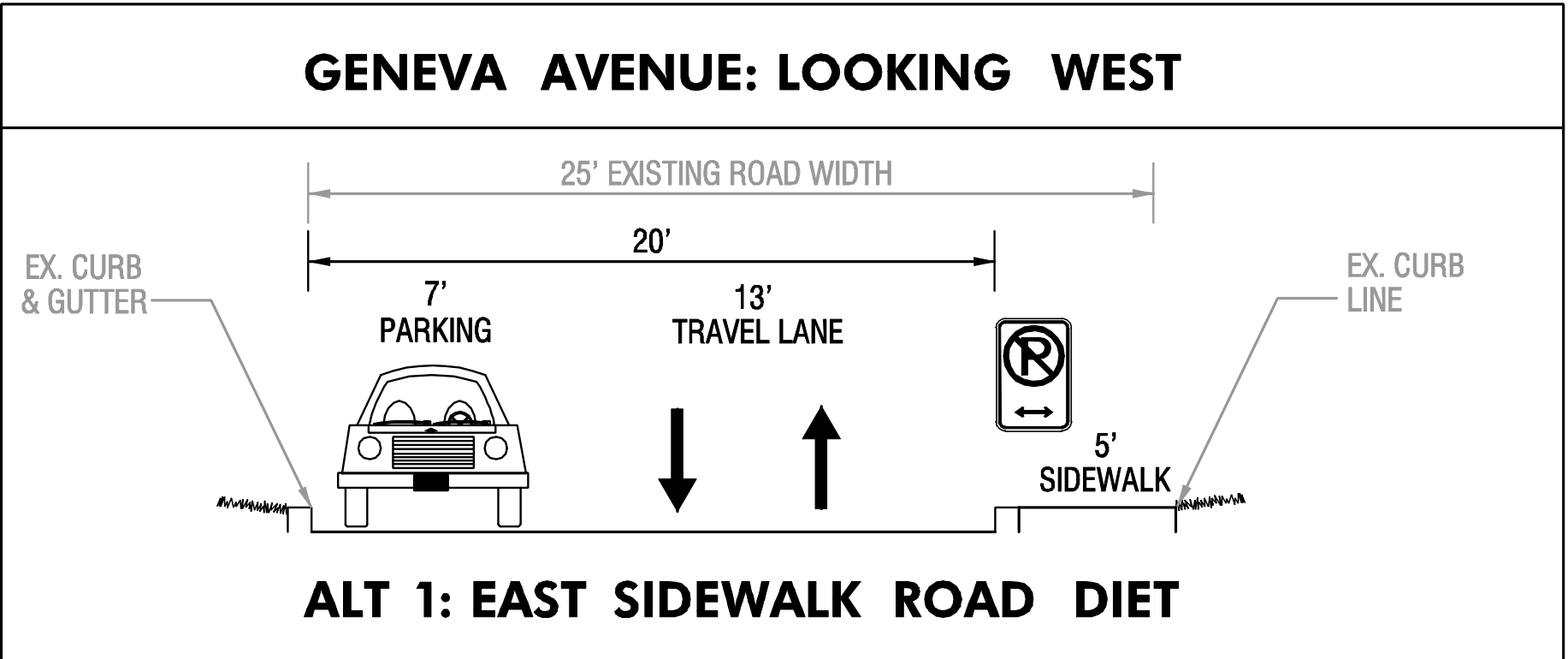
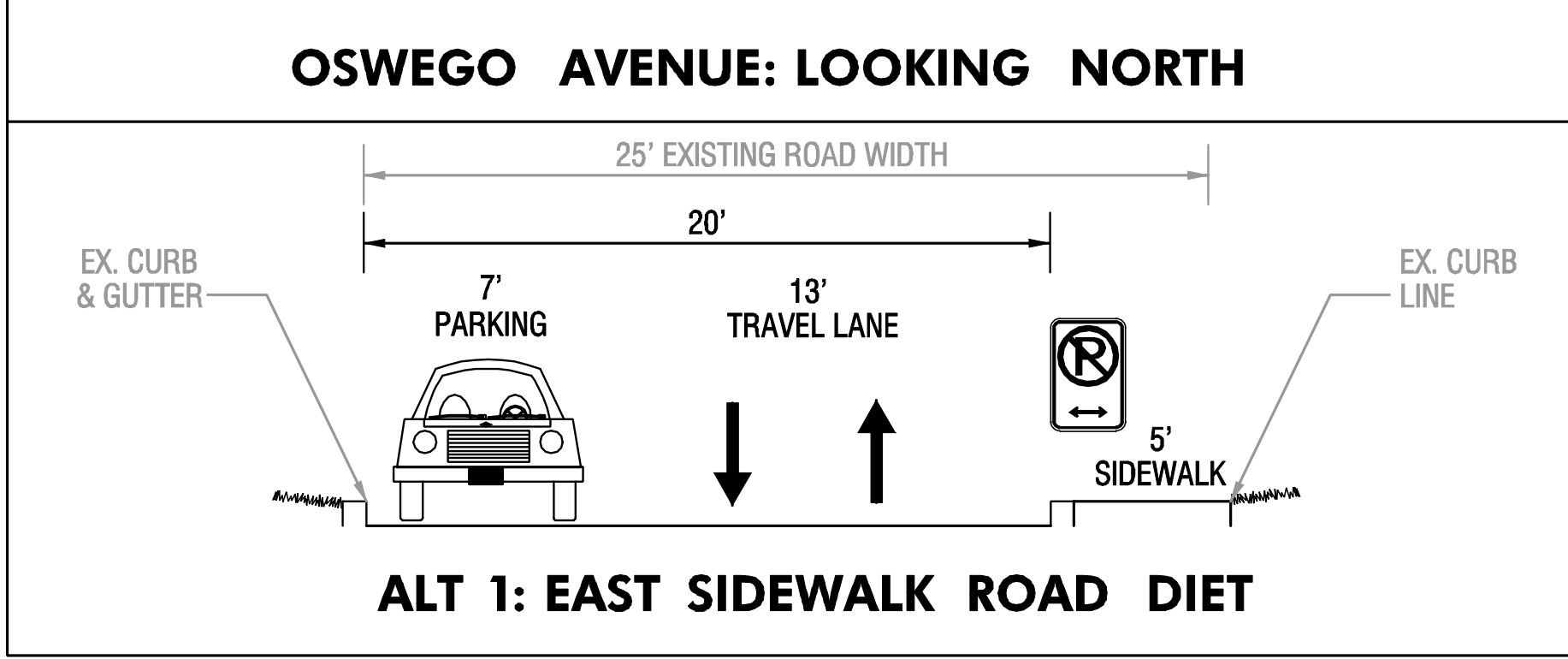
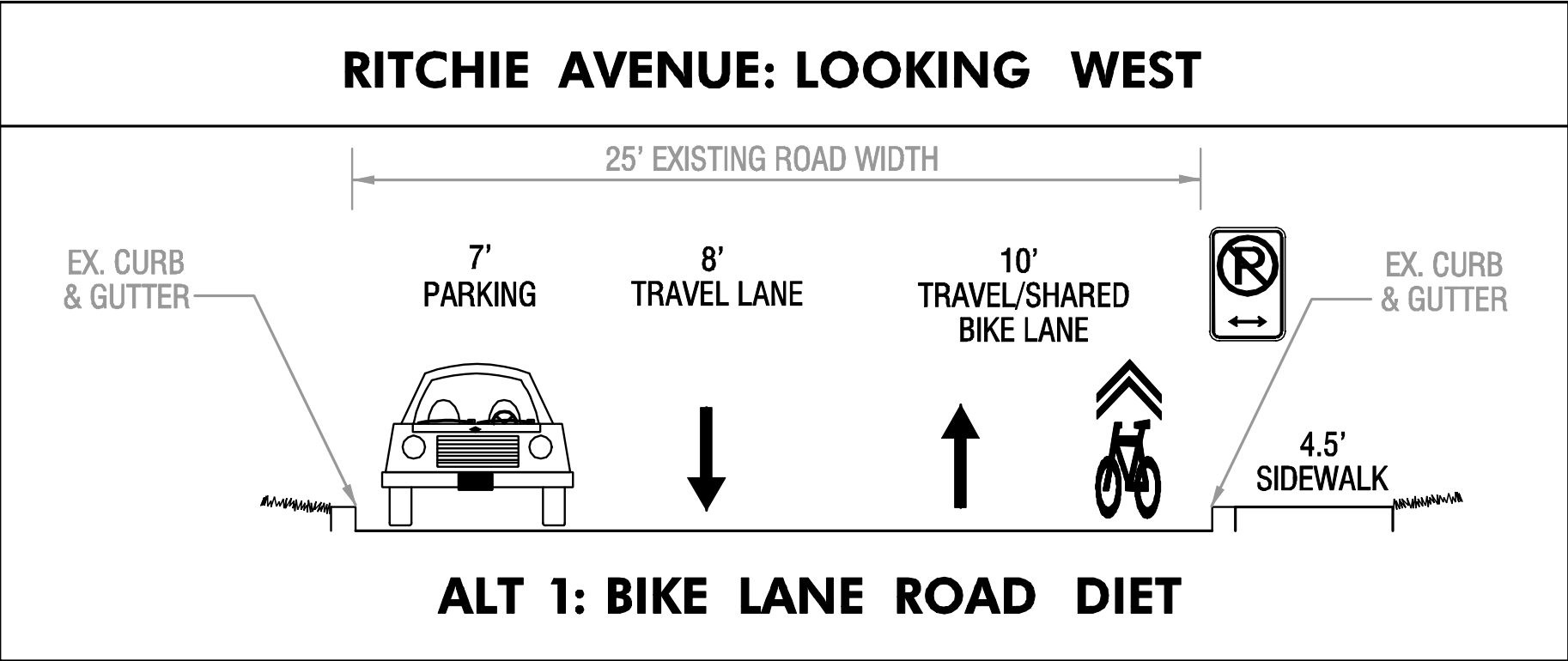
<http://www.takomaparkmd.gov/clerk/ordinance/2010/or201020.pdf>

Clean Water Act

<http://www.epa.gov/oecaagct/lcwa.html#Summary>

Sustainable Sites Initiatives

<http://www.sustainablesites.org/>



Ritchie, Oswego and Geneva Avenues Traffic Calming
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~ Typical Sections